## **Java Changes Everything**

n the past year, Delphi picked up two formidable competitors: Optima++ and Java. They represent two modes of change occurring in the development tools arena — one evolutionary, one revolutionary. Let's examine these changes and their implications for you as a Delphi developer.

Evolutionary Changes. Before 1996, most change within the visual tools market was the result of an evolutionary process. The first phase began in the early 1990s when Visual Basic and PowerBuilder emerged as clear leaders in this area. Their respective languages weren't necessarily robust, but they became corporate standards because they were "good enough" to get the job done *quickly*.

Delphi's entry into this market last year introduced a second evolutionary step. Delphi's technological edge was so striking that the two dominant 4GLs were no longer considered untouchable. The recent release of Optima++ only re-inforces the trend to add true object orientation and optimized code compiler technology to this maturing marketplace.

Revolutionary Changes. As neat and tidy as this evolutionary process has been, one technology trend has emerged that throws the whole market up for grabs: the Web and its programming *wunderkind*, Java. The frenzy for Web tools — and paranoia over the Java hype — has undoubtedly kept product teams from all vendors working late nights "Webenabling" their products. Borland's Delphi 2 Internet/Intranet Update is such an example.

But if "Web-enablement" was all we were talking about, we could call the Web craze just another evolutionary step. What is truly radical about the Web is that it re-adjusts our thinking about application development. The premise in the 1990s was always a client-side application working with server-side data. But Web proponents are discussing a far different "recentralized" model. Java is a principle means of doing just that. If such a model were to succeed *in toto*, then the client-side programs we are currently creating would be effectively replaced by Java applets housed on a server.

I Don't Think So. Undoubtedly, the Web offers a compelling solution for many problems not solvable by standard client/server approaches (see "File | New" in the April '96 DI). But a complete "recentralization" revolution will never occur. The whole notion is based on a false premise, best typified in Sun's well-known phrase: "The network is the computer." As I have previously discussed on this page (in the July '96 DI), this vision runs counter to all our experience in the software world.

Java will not render Delphi,
Optima++, or other tools obsolete,
but its importance in the marketplace can hardly be underestimated.
Java will find many practical uses in
the server-based paradigm, but the
language will surely go beyond the
Web and be used for developing
native Windows .EXEs as well. In
spite of the endless hype, I am convinced that Java will survive as a language, regardless of the winner of the
Microsoft vs. Sun/Netscape wars.

More Tools. The Web revolution has caused the visual tools market to broaden in scope more than ever before, with the distinctions between Web development and client/server tools fading daily. During the evolutionary phases, a developer could get away with concentrating on a single tool, be it Visual Basic, C++, Delphi, or whatever. This practice is not so simple today; the world of client/server computing continues to encompass an ever increasing number of technologies: Internet/intranet architecture, Web database access, distributed objects, and "active" Web content. Within this context, we as developers will need to use multiple tools to provide sound solutions in the marketplace. Delphi will be among those tools. So will Java.

Next month, we'll look at how you can use Delphi to create Web applications.  $\Delta$ 

— Richard Wagner

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